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The National Forests

IN THE PACIFIC NORTHWEST — 1971

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ROCKY MOUNTAIN FOREST AND RANGE EXPERIMENT STATION

Pace of late-season hikers is slowed by new snow as they near Perfection Lake and a peak called Little Anapurna in the Enchantment Lakes area of Wenatchee National Forest.

Cover Photo

Glacier Peak, 10,541-foot namesake of the Glacier Peak Wilderness, soars above the heavily-timbered Suiattle River Valley in this view from the Buck Creek Pass area.

—All photos by the U.S. Forest Service except as otherwise noted.

Feathery outline of a Western pasqueflower is backlighted by late afternoon sun at Buck Creek Pass, Glacier Peak Wilderness.

U.S. Department of Agriculture

Forest Service — Pacific Northwest Region (R-6)

The Pacific Northwest Region of the U.S. Forest Service manages 19 National Forests and one National Grassland, embracing a total of 23.4 million acres in Oregon, Washington, and a small portion of northern California.

While National Forest lands in the Region represent only 12 percent of the total area in the National Forest System, their contribution is much more. The Region yields about 40 percent of the timber harvested from the entire National Forest System; contains 18 percent of all the classified Wilderness in the country; accounts for 17 percent of National Forest visits, and produces 54 percent of total National Forest receipts.

This report documents some of the highlights of the Region's National Forests in meeting a wide array of local and regional needs, and also in making a substantial contribution in meeting National demands.

REXFORD A. RESLER
Regional Forester

FALCON Program Will Seek New Timber Harvest Methods

Modern foresters are faced with the challenge of the century. There's the ever-increasing demand for wood products to meet the Nation's housing and other needs. But this must be balanced against a compelling necessity to maintain a high quality forest environment.

The year 1971 saw significant progress in meeting the challenge.

In the Plumas National Forest of northern California, and the Siskiyou and Mt. Hood National Forests in Oregon, came realization of a long-time dream to utilize helicopters for commercial timber harvest.

While helicopter logging crews were proving the technical feasibility of timber harvest by this spectacular method, the Forest Service was joining with space-age scientists in advancing a long-term research program called FALCON.

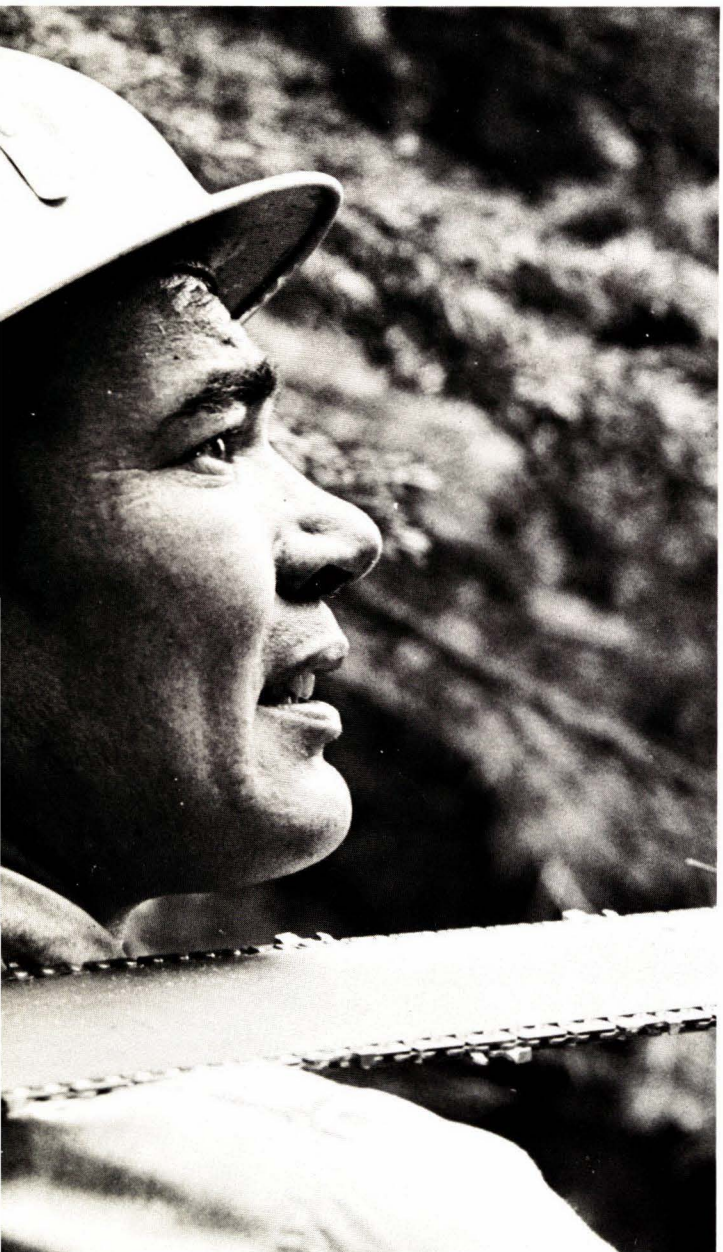
FALCON stands for Forestry, Advanced Logging, and Conservation. The FALCON program will provide a larger array of timber harvest alternatives in environmentally sensitive areas, and improve the ability of resource managers to predict environmental consequences of using conventional and new logging systems.

Projections indicate the demand for wood products will increase two-fold by 1990 – less than two decades away. Surveys also show that about 50 million acres of commercial forest land in the United States requires special timber harvest methods, if soil, water, wildlife, aesthetic, and other values are to be protected.

The FALCON Program will have two major facets – environmental research and engineering research.

Environmental research will first accurately determine and characterize those areas that must be harvested by other than conventional methods. Impacts of the several logging methods will be examined in relation to logging residues, regeneration, soils, water, fish and wildlife, and aesthetics.

FALCON's engineering research will be directed at the development of new or improved aerial logging methods, such as balloons, helicopters, skylines, and other systems. These advanced systems have the advantage of transporting the logs free of the ground. Road construction can be reduced – an important factor, because studies show



Woods workers like Marvin Cunningham are learning the new skills demanded by aerial logging methods.

Sikorsky S-64 Skycrane (opposite page) delivers three-log turn to landing. Huge machine can lift an eight-ton payload.

Big Skycrane receives tender loving care after a day of lifting logs from the forest.

that building of access roads – not logging – is often the bigger cause of soil erosion, water turbidity, and sedimentation.

FALCON logging methods will offer the opportunity for either partial cutting or smaller clearcuts. FALCON promises better methods for salvage of windthrown and fire-killed timber – losses that often occur in patches and pockets impossible to harvest by traditional means. With increasing restraints on the use of pesticides, FALCON systems for early removal of infested and diseased trees may prove invaluable in preventing epidemics.

Directed from the Pacific Northwest Forest and Range Experiment Station, Portland, FALCON will be a national effort, although the initial attack will be in the Pacific Coast states. From there, the effort will spread to the Western interior, the South, and the East. Whether it's the steep slopes of the Appalachians, the Southern wetlands, or the fragile soils of the interior-West – each calls for a choice of timber harvest methods meeting the same environmental needs as systems developed for the heavily forested mountains of the Pacific Coast states.

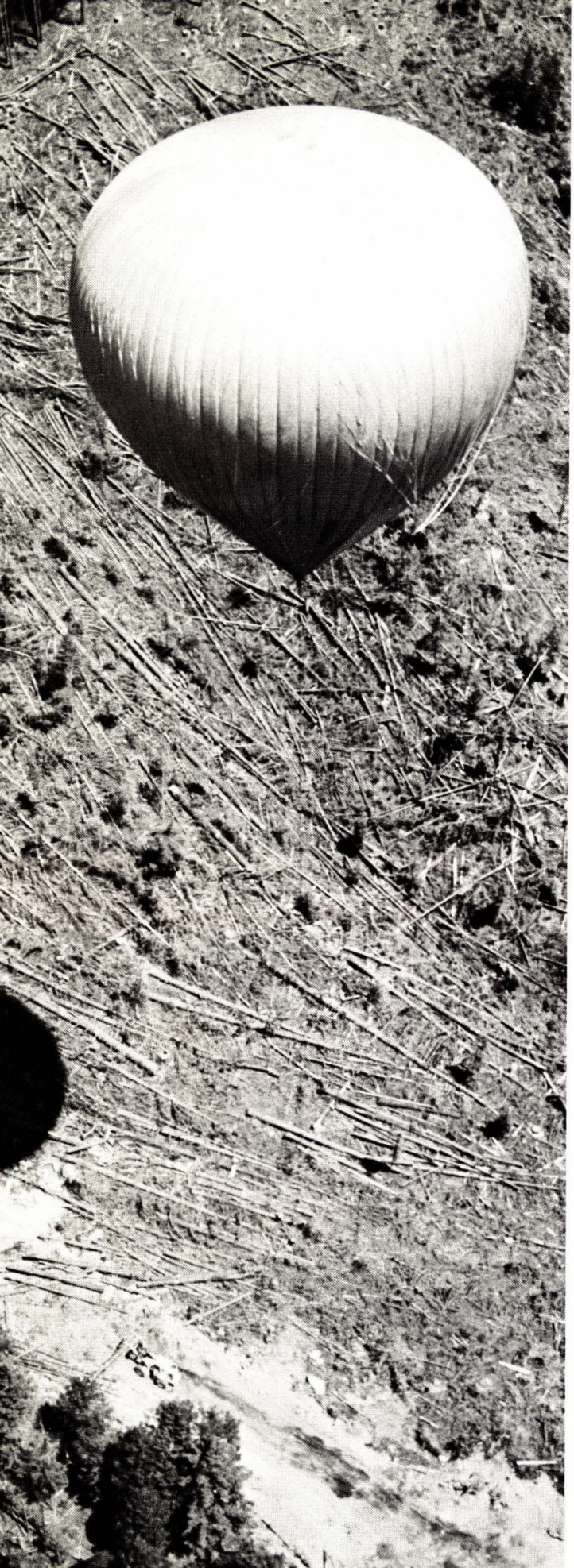
When fully funded, FALCON will cost about $10 million annually for five years. At least half the budget will be used in research contracts and grants to universities, non-profit organizations, and industry.

In Mt. Hood National Forest's Skyhook Fire Salvage Sale, S-61 helicopter hovers as "hooker" below snaps chokers into hook device at the end of lifting cable.

'Copter Logging 'Off the Ground'

During the milestone first year of commercial helicopter logging operations, the accomplishments were impressive. It began in January, 1971, with the Lights Creek Sale, Plumas National Forest, in the Forest Service's California Region. A pioneer Portland, Oregon, helicopter firm, Columbia-Construction Helicopters Inc., joined forces with Erickson Lumber Company, Marysville, California, to log 5.2 million board feet by helicopter. A Sikorsky S-61A, capable of lifting a three-ton payload, was used on this – the world's first commercial helicopter logging operation.

Then the Plumas foresters selected another nearby area where the steep slopes, erodible soil types, and unacceptability of road construction pointed to a helicopter logging operation. Erickson and Columbia purchased the 8.7 million board feet Drum Timber Sale, and entered into a lease arrangement with Sikorsky Aircraft for use of a S-64E Skycrane. Resembling a huge metal dragonfly, the Skycrane lifted and transported 15 to 16



Skyline operation, as in Siuslaw National Forest, is also a proven aerial logging method slated for further development under FALCON program.

thousand pounds of logs, or about 1,500 board feet, with each trip. The two-mile flight from cutting area to truck landing took 2½ to 3 minutes, and the daily goal was to yard 200,000 board feet.

In the Pacific Northwest Region, the Siskiyou National Forest readied a sale of 5.2 million board feet of old growth overstory timber in the Lobster Creek drainage, a tributary of the world-famous Rogue River. The area was not loggable by conventional methods because of steep slopes and unstable soils.

While the S-64 was at work on the Siskiyou National Forest sale, the smaller S-61 resumed logging – this time on the Mt. Hood National Forest in an aptly named timber sale – the Skyhook. Logging was underway just a few days when disaster struck. Wildfire fanned by strong east winds raced through the Skyhook sale area, blackening felled and bucked logs and green timber alike. Helicopter logging resumed later in the fall at Skyhook, only now the operation became the first fire salvage sale to be logged by helicopter. From the initial 3.5 million board feet, the sale was increased to about 8 million feet. About half the volume was logged before snows shut the operation down for the winter.

Far to the north, fallers began cutting fire-killed trees in the Entiat Experimental Forest, swept by flames during the Wenatchee National

Helium-filled balloon lifts logs in Umpqua National Forest timber harvest operation.

Aerial logging methods to be perfected under FALCON program will enable harvest of timber from steep and heavily forested slopes without undue harm to environment.

Forest's 1970 fire crisis. Nearly 25 million board feet will be involved in the Burns-McCree Creek fire salvage sale. Most of the volume will be yarded by helicopter.

Foresters also point to the advantage of using helicopters to salvage insect- or disease-killed trees. The first such operation is a sale called "Whirly Bug", for salvage of beetle-killed Douglas-fir in the Clackamas River drainage of the Mt. Hood National Forest.

Helicopter logging operations to date have proven the technique to be operationally feasible. The pioneering operations have also confirmed another fact of life, to no-one's surprise – helicopter logging is extremely expensive. Data gathered during the initial efforts is still being analyzed to determine just how expensive. The complex question of economics must be weighed with many variables in mind, however, such as savings in road construction and speed of operation. Also, just what is it worth to leave the forest floor virtually unscarred by the timber harvest process?

Ochoco Recovers From Blowdown

A natural disaster on the Ochoco National Forest pointed to an important potential use for the advanced logging techniques envisioned under the FALCON program.

Winds of hurricane force whipped across the Ochoco's eastern portion on May 21, 1971. The storm toppled nearly 100 million board feet of timber, blocked about 200 miles of mainline road, and damaged some 140 miles of range fence. Fortunately, no one was injured.

Also fortunate, from the standpoint of timber salvage operations, was the fact that roads already existed in the area. Had the storm hit a largely unroaded area of heavily timbered, steep slopes, the problem of salvaging the downed timber would have been awesome indeed. Aerial logging methods would have been the answer.

As it happened, the Ochoco blowdown salvage operation was largely one of rapidly assessing

—Photo by Jim Vincent

Uprooted pines mar placid beauty of Ochoco National Forest's Delintment Lake following windstorm.

the damage, re-opening of blocked roads, and launching an immediate timber salvage sale effort.

Aerial reconnaissance resulted in estimates that the storm had covered about 50,000 acres. Paulina Ranger District felt the brunt of the powerful winds.

Rubber-tired skidders belonging to loggers were put to work immediately to re-open the main-line road system. Secondary and spur systems, representing about 500 miles of blocked roads, would be opened later under timber sale contracts. In addition, several hundred miles of streams plugged by blowdown material would be cleared during the course of salvage logging.

Ochoco personnel working from helicopters made individual tree counts from the air and then correlated the count with cruised volumes on the ground. This system allowed the entire area to be cruised in a week. Seven-day advertising authority was granted, and the first sales were made on June 10, less than a month after the winds struck. In all, 35 sales were made for a total of 90 million board feet. An additional 10 million board feet was added to timber sales already under contract.

At year's end, 95 percent of the blowdown volume had been logged, and the remainder would be harvested as soon as snow conditions permitted.

Timber Harvest Up; Sales Down

Volume of timber sold from Pacific Northwest Region National Forests in 1971 was about 825 million board feet under 1970 totals, while the volume harvested increased by some 250 million board feet.

Harvest volume increased from 4.102 billion board feet, to 4.351 billion board feet. Value of the timber cut increased from $140.28 million in 1970, to $157.7 million in 1971.

Timber volume sold from the National Forests of the Pacific Northwest last year was 4.59 billion board feet, valued at $126.5 million, compared with 5.42 billion board feet, valued at $137.7 million, sold in 1970.

National Forest Timber Cut and Sold
Pacific Northwest Region 1970-1971

		Volume, Board Feet	Value
Harvested	1971	4,351,698,240	$157,761,362
	1970	4,102,031,800	$140,282,770
Sold	1971	4,594,178,760	$126,504,520
	1970	5,420,091,390	$137,798,991

(Region 6 Sustained Yield Allowable Cut – 4,372,000,000 Board Feet)

Balloon logging is used successfully by the Bohemia Lumber Company, Eugene, Oregon, pioneers in the development of this advanced aerial timber harvest method. Balloon operations may even be feasible at night when cooler temperatures would provide greater lifting efficiency. FALCON program may explore the concept of night operations.

Land Reforested

Reforestation was accomplished on 54,902 acres of National Forest land in the Pacific Northwest Region during 1970-71. The effort involved planting of 47,740 acres, and direct seeding of 7,162 acres. Site preparation for reforestation involved 17,478 acres. Timber stand release was accomplished on 18,520 acres, and 45,885 acres were precommercially thinned.

Co-op Forestry Expands

The cooperative forestry program for private landowners in the Pacific Northwest Region was expanded in 1971 with the addition of two farm foresters in Oregon. The addition made a total of 26 farm foresters to serve small forest land owners in the two states.

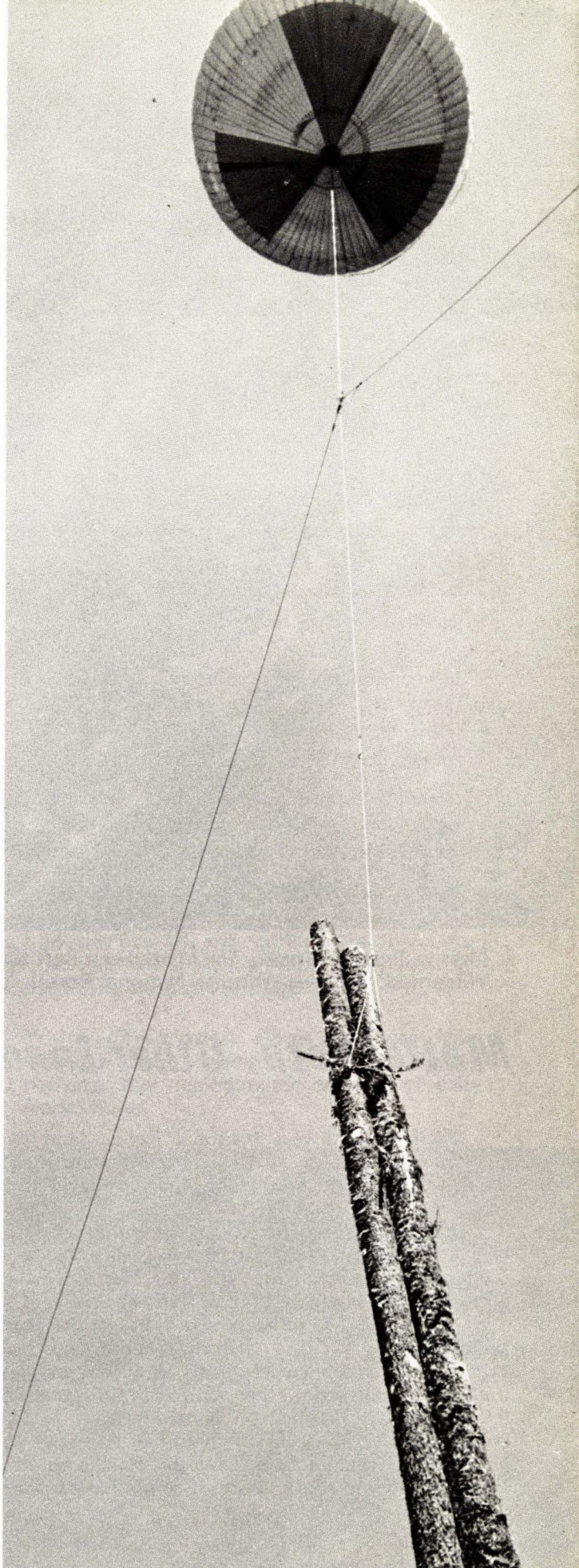
In 1971, the Pacific Northwest farm foresters assisted 4,465 owners with responsibility over 272,670 acres. Sale of forest products from these lands resulted in a gross return of $2.8 million to the owners. Timber stand improvement was carried out on 7,721 acres, and 4,692 acres was reforested. Reflecting the multiple use aspects of private forests, 1,230 assists by the farm foresters involved activities such as grazing, recreation, special forest products, water, and wildlife.

Forest Access Progress

New access roads totalling 1,531 miles, and valued at $56.3 million, were added to the National Forest road system in the Pacific Northwest during 1971. Forest Service road construction contracts totalling $16.2 million resulted in 86.6 miles of road construction, while timber operators built 1,445 miles of road, valued at $40 million, as part of their timber purchase contract.

Also, Forest Service contracts valued at $2.9 million enabled the reconstruction of 25 miles of road, while timber purchasers reconstructed 1,692 miles of road at an estimated worth of $11.7 million.

National Forest trail construction and reconstruction involved 108 miles of trail, with the work valued at $866,182. Included was $250,151 worth of work on 45 miles of the Pacific Crest National Scenic Trail through Oregon and Washington.



Massive limestone peak, The Matterhorn (left foregound), is now owned by public as part of Eagle Cap Wilderness, Wallowa-Whitman National Forest.

Matterhorn, Other Lands Acquired

Pacific Northwest National Forest land exchanges and purchases in 1971 included acquisition of the 9,845-foot Matterhorn in the Eagle Cap Wilderness of the high Wallowas.

The limestone peak, a landmark of the Wallowa-Whitman National Forest, is in a 640-acre tract purchased from Mr. and Mrs. Keith Wilson, Salem, Oregon, for $32,000, or $50 per acre.

While the Matterhorn was the loftiest land acquisition in 1971, a Gifford Pinchot National Forest land exchange involving 15,693 acres was the largest transaction. The United States received 9,987 acres of Burlington Northern land in exchange for 5,706 acres of National Forest land. Part of the lands acquired by the Forest Service extend from the south shore of Spirit Lake up the north side of Mt. St. Helens. This was the third and final exchange in a series of long range land ownership adjustments initiated in 1963 between the Forest Service and Northern Pacific Railway (now Burlington Northern).

The land ownership adjustments between the railroad company and the Forest Service have seen the transfer of 13,793 acres to the National Forest, in exchange for 8,488 acres of federal land south of Swift Reservoir. The exchanges have resulted in mutual benefits from the standpoint of efficient land management.

Throughout the Region in 1971, there were 15 land exchange transactions involving 45,800 acres, and seven land purchases totalling 1,170 acres.

Oregon Rep. Edith Green visits with Timber Lake's Top Corpsman, Glenn Smith, right, and three of his fellow Corpsmen, Tony Chamberlain, Eddie Zellers, and Dennis Brown, left to right.

Job Corps Emphasizes Training

The Pacific Northwest Region's three Civilian Conservation Centers continued to prepare Job Corpsmen for the working world. The Centers are Wolf Creek, Umpqua National Forest; Angell, Siuslaw National Forest, and Timber Lake, Mt. Hood National Forest.

Each of the centers provides at least 10 skills training curriculums: basic carpentry, union carpentry, union painting, heavy equipment operator, custodial maintenance, culinary arts, automotive repair, union plasterer, welding, and stock clerk.

Placement of Corpsmen, particularly those graduating from trade union training programs, continued to be good, although a depressed labor market showed some adverse effects.

One of 1971's more significant Job Corps events saw the visit of Oregon Representative Edith Green to the Timber Lake Center. It was the first time Mrs. Green had been to a Civilian Conservation Center, and she appeared impressed by the positive attitude of Corpsmen and staff officers, and the training facilities.

Youth Corps Camps Operated

The Pacific Northwest Region of the Forest Service participated last summer in the first season of a three-year Youth Conservation Corps program. Five YCC camps were operated by the Region in June, July and August, with 157 young men and women participating.

Two of the camps were on the Snoqualmie National Forest, one was on the Gifford Pinchot National Forest in Washington, and the other two camps were operated by the Ochoco National Forest in Oregon.

Mostly recruited from school districts near the camps, the young people accomplished conservation projects valued at $85,449, and also attended environmental education classes.

A program similar to the initial effort was being planned for the summer of 1972. Enrollees age 15 through 18, are chosen from all economic, ethnic, and social backgrounds. They earn about $300 during the eight-week period.

Youth Conservation Corps enrollees from Rimrock Camp, Snoqualmie National Forest, perform trail maintenance as part of daily work chores.

Fire Season Less Severe

After 1970's disastrous experiences, the fire season of 1971 was a welcome change. Only 7,513 acres were blackened, compared with 160,911 acres burned in 1970 on lands protected by the Forest Service in the Pacific Northwest Region of Oregon and Washington. There were 1,738 fires in 1971, compared with 3,384 the year before.

The weather made the difference. All Forests in the Region received above normal precipitation during March, April, May and June, and it was the coolest June since 1954.

By mid-July, the weather changed abruptly from cool and wet, to hot and dry. In what would have been a disaster a year earlier, the first fire bust of 1971 caused little damage to the Forests. The Region was hit by 494 lightning and 29 man-caused fires during a seven-day period ending August 5, but the loss was held to only 98 acres.

For the entire season, there were far fewer lightning fires in 1971 – 838, compared with 2,009 in 1970. Man-caused fires totalled 900 last year, compared with 1,375 the year before.

Fire danger was rapidly lowered by general rainfall at the end of August, but the most serious part of the fire season was yet to come. With blast furnace-like force, strong and persistent east winds rapidly dried the forests. Critical burning conditions prevailed over most of the western Cascades and coastal mountains in mid-September. The worst fires of the year came during this period. In the Siskiyou National Forest of southern Oregon, the Pistol Basin Fire burned 1,088 acres, and three fires on the Mt. Hood National Forest burned 4,500 acres. The latter included the Skyhook Fire, 1,851 acres, scene of the Mt. Hood Forest's first helicopter logging operation.

Skyhook Fire rages through Mt. Hood National Forest's first helicopter sale area.

Standby Helicopter Worth Proven

The value of large helicopters for rapid movement of manpower and equipment was well proven during the 1970 fire crisis in the Pacific Northwest.

In 1971, the Forest Service tested the helicopter mobility concept further. Two turbine-powered Bell 205s were contracted for standby duty through the height of the fire season. One was stationed at Chelan for use of a 10-man Wenatchee National Forest helitack crew. The other helicopter was based at Memaloose, Wallowa-Whitman National Forest, with a six-man helitack crew.

The two helicopters and crews were available for dispatching from home bases over a one-hour initial attack zone, roughly an 80-mile radius. Eight

The 1971 Fire Season

On lands protected by the Forest Service, Pacific Northwest Region, in Oregon and Washington.

Number of Fires	1971	Average for Last 5 Years
Lightning	838	1,217
Man-caused	900	874
	1,738	2,091
Acreage Burned		
Lightning	468	42,249
Man-caused	7,045	13,513
	7,513	55,762

Memaloose helitack crew practices rapid unloading from turbine-powered Bell 205. *—Photo by Jim Vincent*

secondary bases were also established through the Region for use by large helicopters when necessary.

The Memaloose helicopter and crew also had initial attack responsibilities for adjacent middle-Snake River areas in the Forest Service's Intermountain and Northern Regions.

Fire strategists believe the helitack program paid big dividends in 1971. There were numerous instances where rapid initial attack action by the airborne firefighters prevented what could have been large fires, even though burning conditions were not as severe as in 1970.

In one instance, the Memaloose crew was fighting a blaze only 16 minutes after it had been first reported by the Hat Point fire lookout. On the Wenatchee National Forest, Chelan helitack crewmen probably provided the edge needed to hold a potentially serious fire on Goat Mountain to 300 acres.

The Chelan and Memaloose helicopters bases were manned in addition to the numerous smaller helicopters and crews utilized during the summer throughout the Region.

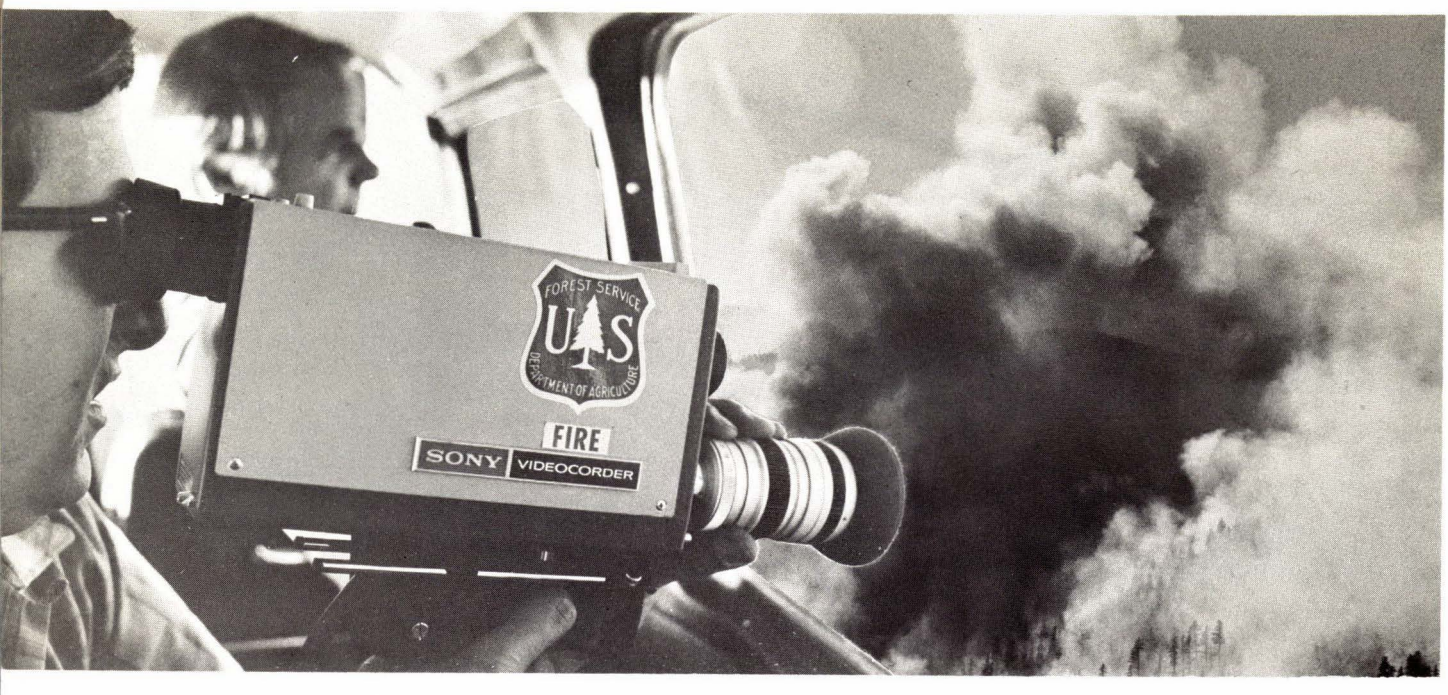
States Enjoy Good Fire Year

Forest protection forces for the States of Washington and Oregon also enjoyed a relatively easy forest fire season in 1971.

The Oregon State Department of Forestry reported 200 lightning-caused fires, and 589 man-caused fires, on lands protected by the state agency. The 789-fire total accounted for 5,089 acres burned, compared with 1,675 fires and 10,556 acres blackened on Oregon-protected lands in 1970.

In Washington, the State Department of Natural Resources had only 60 lightning fires, while 828 fires were reported as man-caused. DNR firefighters held the 888-fire total to 1,329 acres burned. In 1970, the Department battled 1,972 fires on 61,367 acres of the area protected in the state.

Since 1907, both states have received federal cooperative assistance to help finance the prevention and control of forest and range fires.



—Photo by Jim Vincent

Videotape recording equipment is one of the newer innovations being used successfully by fire control men. Montage above illustrates how VTR was utilized during Skyhook Fire, Mt. Hood National Forest. While Pat Kelly, fire behavior team assistant, visually tapes fire from patrol aircraft, John Dell, fire behavior officer, dictates simultaneous voice recording. Dell describes fire's current behavior, expected behavior based on latest weather briefing, and topography and fuels in and around fire. Videotape is then played on ground for fire strategists. Below, David Beals, Redmond Air Center staff, tapes a smokejumper trainee's practice leap from tower. Trainee and trainers can then study instant playback of action.

Visitors to Eagle Cap Wilderness in 1971 were required to have entry permits in Pacific Northwest Region's first use of Wilderness permit requirement. Above, backpacking father and son, and their dog, cross a lingering snowfield against backdrop of Eagle Cap Mountain and dark, threatening sky.

Wilderness Permit System Tried

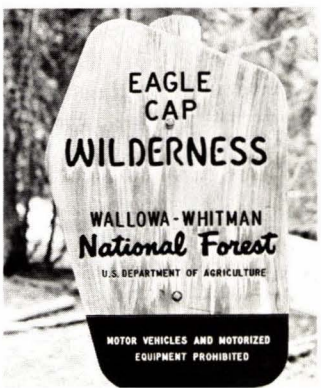
Through the centuries, the Eagle Cap Wilderness has endured the storms of Nature that shaped the rugged beauty of the high Wallowas in Northeastern Oregon.

But the Eagle Cap Wilderness isn't faring so well against increasing thousands of visitors who hike or ride the glaciated canyons to reach the high lakes and fragile alpine meadows.

Located in the Wallowa-Whitman National Forest, the 220,416-acre Eagle Cap Wilderness is one of the oldest in the National Wilderness Preservation System. The Eagle Cap area was given Primitive status in 1930, and was classified as Wilderness 10 years later. It became part of the National Wilderness System with passage of the Wilderness Act in 1964.

Eagle Cap is not only one of the oldest Wildernesses in the system, but also one of the heaviest used. It was the third most visited Wilderness in Oregon and Washington in 1970, ranking only behind the Three Sisters and Mt. Jefferson Wildernesses in Oregon.

The 162,600 visitor days of use for the Eagle Cap in 1970 was a six-fold increase in 10 years. Almost half the Eagle Cap visitors were horsemen, making it the Region's most popular Wilderness for horsebacking. Ever-increasing use of the Eagle Cap Wilderness has resulted in severe damage to trails



Eagle Cap is one of most popular Northwest Wildernesses for horsemen. Here, a pack string crosses a fragile high country meadow.

and campsites in some areas, and serious depletion of forage.

To counter the problem, the Forest Service placed special management steps into effect for the Eagle Cap, starting with the 1971 summer season. Pack and saddle stock users were required to obtain Wilderness livestock permits, available free at District Ranger offices and outlying stations, and cooperating commercial outfitters and resorts.

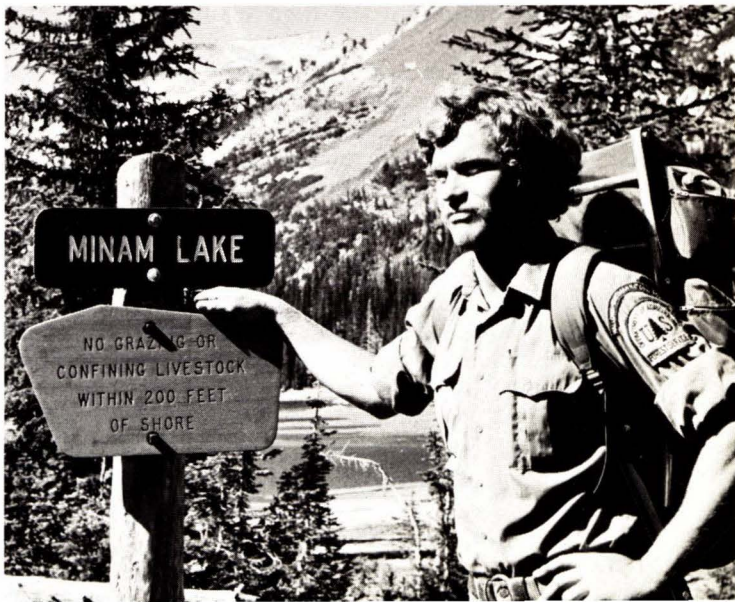
Wilderness hikers were required to register themselves at trail stations adjacent to the Wilderness boundary.

With some variation, the Eagle Cap system was comparable to a much broader application in California where the Forest Service required permits for entry to all National Forest Wildernesses.

Although the system wasn't intended to limit Wilderness visitors, it did serve some important functions. Registration provided accurate usage figures that will serve to improve Wilderness management programs. And it provided the opportunity for reminding all Eagle Cap visitors of Wilderness rules and regulations.

In addition to the registration and permits, the new system prohibited the grazing or confining of pack and saddle stock within 200 feet of lakes or streams. Campers were also discouraged from locating within 100 feet of water, or next to trails.

Probably of most impact to long-time Eagle Cap users were the closures of five trails and six lakes to livestock. The affected trails and lakes are in especially fragile areas, and usually receive extremely heavy use. Also, 10 lakes and two mead-



Wilderness Rangers like Bill Curry patrol high country during recreational season.

Campers end day with quiet canoe ride on Lake Wenatchee, Wenatchee National Forest.

ows were closed to all overnight stays by pack and saddle animals.

During the first summer, emphasis was on informing Eagle Cap visitors of the need for the registration and permit system. Wilderness rangers attempted to contact as many persons as possible. Most people seemed happy to comply with the system, once they understood the necessity for the special measures.

Because of a lingering heavy snowpack, the 1971 recreation season was relatively short, and not typical for the high country. Usage was generally down, and impact on fragile areas was consequently less. It was probably not the best year to measure effectiveness of the permit system in its initial trial. However, Wilderness administrators feel the first year's effort did provide valuable experience on which to base recommendations for Wilderness management in years to come.

Recreational Visits Decline

For the third year in a row, recreational visits to National Forests in the Pacific Northwest Region in 1971 registered a decline.

Recreational use totalled 27.3 million visitor days, compared with 28.01 million visitor days in 1970, and 28.02 million in 1969. (A visitor day equals one person spending 12 hours, or 12 people spending one hour.)

With the Mt. Hood National Forest leading with 3.64 million visitor days, eight National Forests in the Region each recorded more than a million visitor days. The others were: Deschutes NF, 3.26 million; Snoqualmie NF, 3.23 million; Wenatchee NF, 2.37 million; Willamette, 1.88 million; Wallowa-Whitman NF, 1.84 million; Rogue River NF, 1.61 million; and Umatilla NF, 1.05 million.

—Oregon Game Commission Photos

Greater hunter challenge presented by Chesnimnus program increased elk survival, and more bulls will mature into trophy animals such as this pair.

Hunters Approve of Road Closures in Elk Study Area

If it improves the quality of the hunting, hunters are willing to do without cars in favor of foot or horseback travel. This fact emerged during the 1971 elk hunting season on the popular Chesnimnus Game Management Unit in northeastern Oregon.

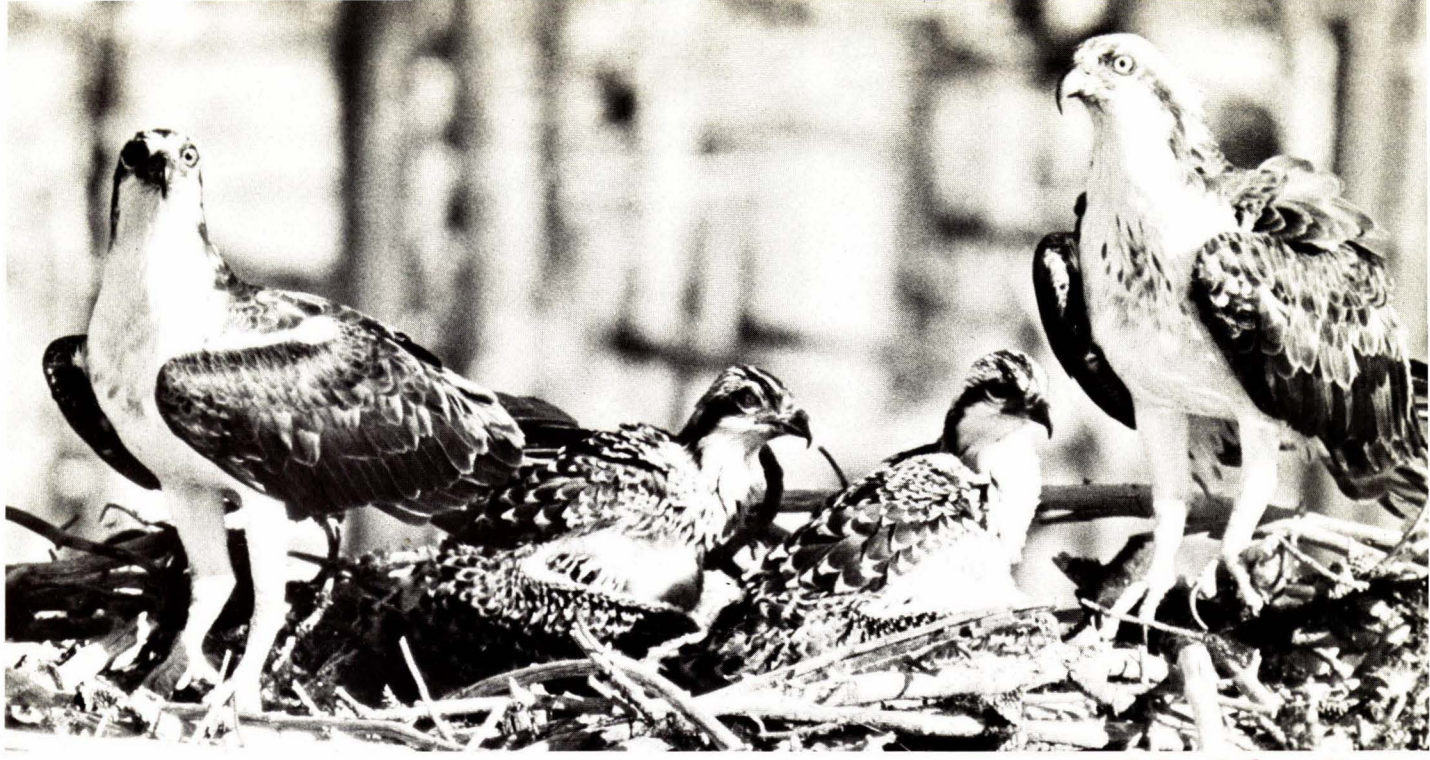
As part of a three-year study by the Oregon State Game Commission and the Wallowa-Whitman National Forest, many roads serving the 400-square mile area were closed for the 1971 elk season. Purpose of the 1970-72 study is to determine whether road closures affect elk numbers and the elk harvest, whether the public accepts road closures, and whether elk move from one management area to another.

Positive response to the road closures was outstanding, with 87 percent of 3,419 hunters contacted approving the restrictions. Nine percent opposed the closures, and four percent either hadn't made up their minds or had no opinion. Most of the hunters felt the quality of the hunting was much improved, even though the average kill success was lower.

Because of hunter acceptance and cooperation, violations were not a serious problem in most areas. Hunters sometimes went to great lengths to police their own ranks. In one reported incident, a hunter discovered two vehicles several miles down a closed road. He noted vehicle descriptions and license numbers, "told off" the offenders, and walked back to his own car at the closure point, where he felled a tree across the road. He reported the offenders to an enforcement officer and they were apprehended.

Enterprising hunters adapted to the road closures in many ways. One group used a horse-drawn

Chesnimnus cow elk, wearing her new identification collar, steps warily from trapping pen. Selected elk were marked to assist in monitoring their movements about range.



—OSU Photo by Gordon Lind

Osprey enjoying life at Crane Prairie Osprey Management Area, Deschutes National Forest.

cart. Others borrowed an idea from America's earliest hunters and used the travois to bring out their game.

Besides improvement in the quality of the hunting experience, vehicle damage to fragile areas was greatly reduced, there was less littering, and elk apparently benefited from less vehicle harassment.

Additional data will be gathered, however, before final conclusions are drawn from the study.

Osprey Numbers on Increase

Good news evolved from the 1971 census on the Crane Prairie Osprey Management Area of the Deschutes National Forest in the Central Oregon Cascades.

Population of the Crane Prairie osprey increased by 50 birds over the count in 1970, when the Osprey Management Area was dedicated as the first of its kind in the Nation. While 150 of the big fish hawks were counted at Crane Prairie in 1970, there were 200 in 1971. Forty-three osprey were produced from 30 nests in 1970, and 66 young were reared on 58 nests in 1971.

Osprey also accepted two out of three experimental nesting platforms. Willingness of the birds to use the artificial sites is encouraging, as many of the old snags gradually rot and drop into the reservoir. Presence of the nesting snags in the water is one of the factors making Crane Prairie Reservoir such an ideal osprey habitat.

Grazing Important on National Forests

Pacific Northwest Region National Forests in 1971 provided forage for 207,500 range animals. A total of 151,150 cattle and horses, and 56,350 sheep and goats grazed on 6.7 million acres of National Forest land, and 963 range permittees paid $344,843 in grazing fees.

Cooperative efforts by the Forest Service and permittees to improve rangelands continued, with the Forest Service investing $332,167, and permittees contributing $236,313 in funds and labor. Joint accomplishments included construction of 226 miles of fencing, 54 cattleguards, 18 corrals and hitchrails, and development of 87 springs, 122 ponds and reservoirs, and two wells. Revegetation and fertilization were accomplished on 27,667 acres, while plant control and seeding involved 5,388 acres.

Fattened cattle move out from waterhole during fall roundup, Umatilla National Forest.

U.S. Department of Agriculture

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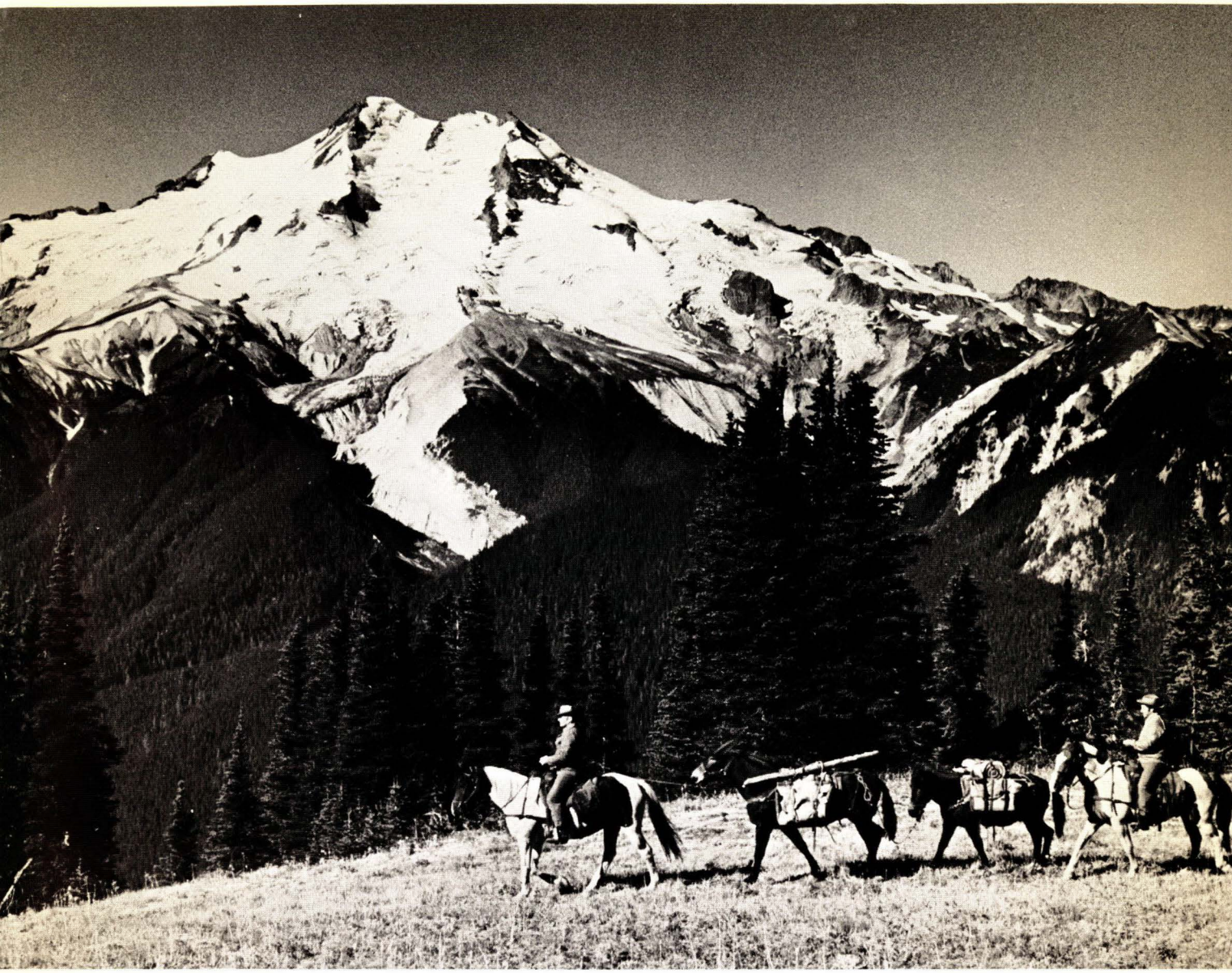

Forest Service packstring carries materials for high country trail repair job, Glacier Peak Wilderness.

The Regional Office is located in the Multnomah Building, 319 SW Pine St., Portland, Oregon.
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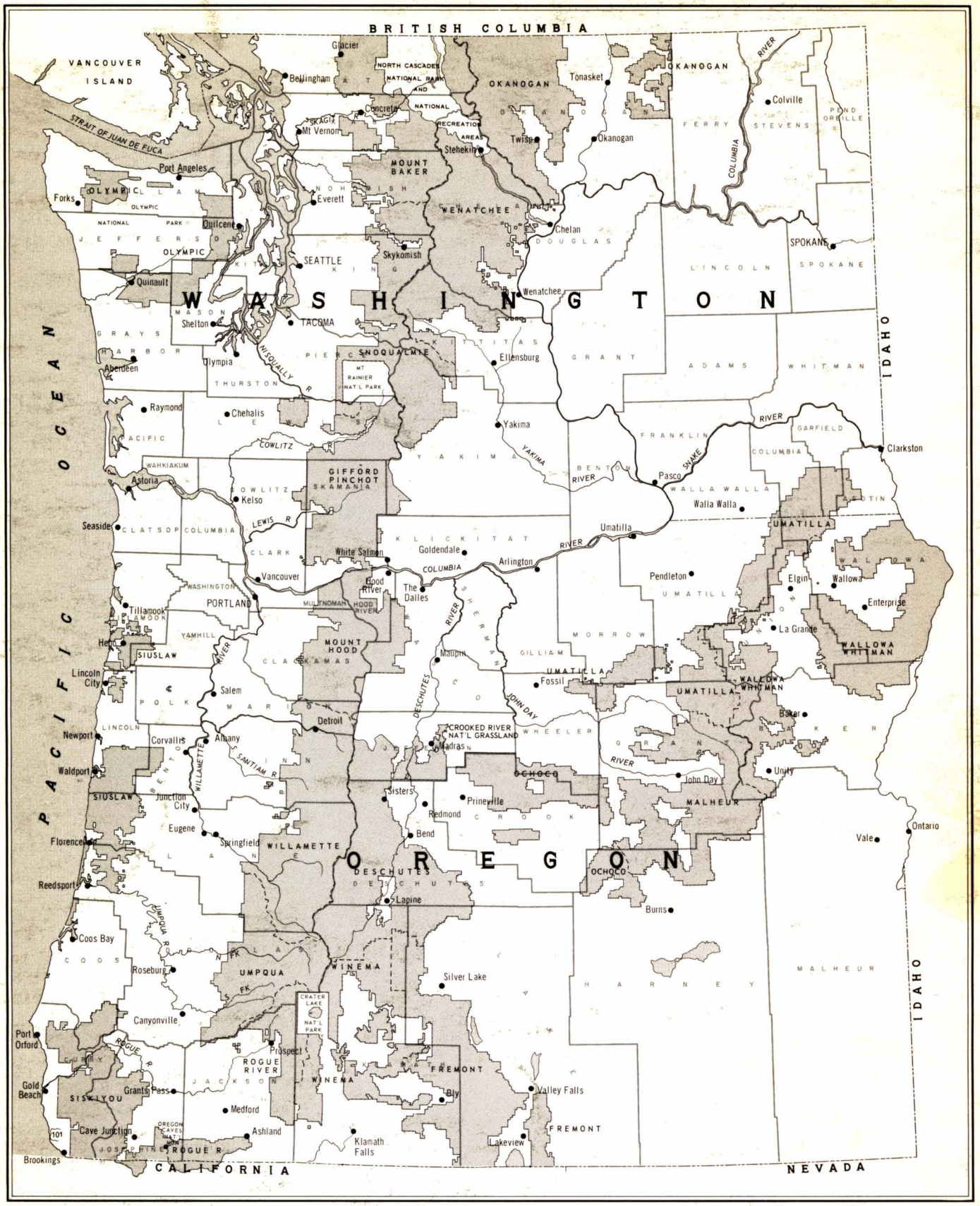

0 20 40 60 80 100 Miles

Scale in Miles

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Edward P. Cliff, Chief

NATIONAL FORESTS OF THE PACIFIC NORTHWEST REGION

LEGEND

- STATE LINES
- COUNTY LINES
- NATIONAL FORESTS

* U.S. Government Printing Office: 1972-796-218/4 Region No. 10